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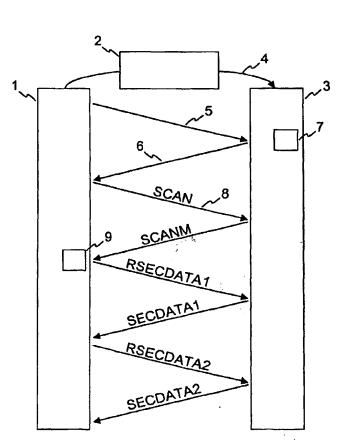
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(54) Title: SUBCODE AND SECTOR SYNCHRONIZATION FOR A DATA PROCESSING SYSTEM



(57) Abstract: The present invention relates to the data synchronization between a data processing system (3) and a servo-system (1) for an apparatus for reading from and/or writing to optical recording media. It is an object of the present invention to provide an improved method for synchronizing the subcode time codes and sector addresses of data contained on a recording medium. According to the invention, the method comprises the steps of: - sending (4) a number of sectors from the micro controller (1) to the data processing system (3); - requesting (8) information about the sector headers of the received sectors from the data processing system (3); - calculating (9) the difference between the subcode time codes and the sector addresses using the information about the sector headers; - repeating the synchronisation steps (4, 8, 9) for every session on the recording medium.



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 936 917 A (MIN KYOUNG-SEO) 10 August 1999 (1999-08-10) abstract figure 3 figure 4	1-7
A	ECMA: STANDARD, 'Online! XP002264137 Retrieved from the Internet: <url:http: www.ecma.ch=""> 'retrieved on 2003-12-05! cited in the application page 14, paragraph 14 -page 15, paragraph 14.2 page 18, paragraph 21 -page 23</url:http:>	1-7
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	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 574 704 A (SHIMOSAKA WATARU) 12 November 1996 (1996-11-12) cited in the application the whole document	1-7
A [·]	US 4 802 152 A (VAN ALPHEN ADRIANUS J M ET AL) 31 January 1989 (1989-01-31) column 6, line 34 -column 11, line 15	5

INTERNATIONAL SEARCH REPORT

International	Application No
PCT	03/08570

'Patent document cited in search report		Publication date		Patent family member(s)	Publication date
US 5936917	A	10-08-1999	KR DE JP JP	176598 B1 19708796 A1 3022803 B2 10069708 A	15-04-1999 20-11-1997 21-03-2000 10-03-1998
US 5574704	Α	12-11-1996	JP	8055462 A	27-02-1996
US 4802152	Α	31-01-1989	CA DE EP JP JP	1292065 C 3771253 D1 0241081 A1 2591742 B2 62236175 A	12-11-1991 14-08-1991 14-10-1987 19-03-1997 16-10-1987